

Models		
WR-2101	WR-2104	
WR-2102	WR-2105	
WR-2103	WR-2106	



201 Daktronics Drive Brookings, SD 57006-5128 www.daktronics.com/support 800.325.8766



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1 Introduction

This manual explains the installation and maintenance of Daktronics Matside Jr. LED wrestling scoreboards. For additional information regarding safety, installation, operation, or service, refer to the telephone numbers listed in **Section 5: Daktronics Exchange and Repair & Return Programs (p.12)**. This manual is not specific to a particular installation. Project-specific information takes precedence over general information found in this manual.

Important Safety Instructions

- Read and understand all instructions before using the display.
- Disconnect display power when not in use or when servicing.
- Disconnect display power before servicing power supplies to avoid electrical shock. Power supplies run on high voltage and may cause physical injury if touched while powered.
- Do not modify the scoreboard structure or attach any panels or coverings to the scoreboard without the express written consent of Daktronics.
- Do not disassemble control equipment or electronic controls of the display; failure to follow this safeguard will make the warranty null and void.
- Do not drop control equipment or allow it to get wet.

Specifications Label

Power specifications as well as serial and model number information can be found on an ID label on the display, similar to the one shown in **Figure 1**.

ASSY NO.		
SER. NO.		
MFG DATE		
DAKTRONICS		
201 DAKTRONICS DR. BROOKINGS, SD 57006-5128	PHONE 800-325-8766	LL-2306 R01

Figure 1: Specifications Label

Please have the assembly number, model number, and the date manufactured on hand when calling Daktronics customer service to ensure the request is serviced as quickly as possible. Knowing the facility name and/or job number will also be helpful.

Display Controllers

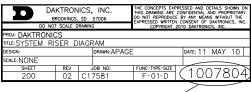
Daktronics Matside Jr. scoreboards are designed for use with an All Sport[®] 1600 or 5000 console. Both controllers use keyboard overlays (sport inserts) to control numerous sports and display models. Refer to the following manuals for operating instructions:

- All Sport 1600 Series Control Console Operation Manual (ED-12462)
- All Sport 5000 Series Control Console Operation Manual (ED-11976)

These manuals are provided on a CD with the control console and they are also available online at <u>www.daktronics.com/manuals</u>.

Resources

Figure 2 illustrates a Daktronics drawing label. This manual refers to drawings by listing the last set of digits. In the example, the drawing would be referred to as DWG-1007804. All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface. Any drawings referenced in a section are listed at the beginning of it as shown below:



Drawing Number

0P-1127-0024

02/19/12 Rev. 1

Figure 3: Part Label

2465

SN:

Figure 2: Drawing Label

Reference Drawing:

System Riser Diagram......DWG-1007804

Daktronics identifies manuals by the DD or ED number located on the cover page.

Daktronics Nomenclature

Most display components have a white label that lists the part number (**Figure 3**). Part numbers will also appear on certain drawings. If a component is not found in the **Replacement Parts (p.10)**, use the label to order a replacement. Refer to **Section 5: Daktronics Exchange and Repair & Return Programs (p.12)** if replacing or repairing any display component.

Main Component Labels			
Part Type	Part Number		
Individual circuit board	OP-XXXX-XXXX		
Assembly; a collection of circuit boards	0A-XXXX-XXXX		
Wire or cable	W-XXXX		
Fuse	F-XXXX		
Transformer	T-XXXX		
Metal part	0M-XXXXXXX		
Fabricated metal assembly	OS-XXXXXX		
Specially ordered part	PR-XXXXX-X		

Accessory Labels		
Component	Label	
Termination block for power or signal cable	ТВХХ	
Grounding point	EXX	
Power or signal jack	JXX	
Power or signal plug for the opposite jack	PXX	

Product Safety Approval

Daktronics scoreboards are ETL-listed, tested to CSA standards and CE-labeled for indoor use. Contact Daktronics with any questions regarding the testing procedures.

Specifications

The table on the following page details all of the mechanical specifications, circuit specifications, and power requirements for each display in this manual. Models are listed in alphanumeric order.

Note: All displays require a 120 VAC, 15 Amp circuit. Displays with a 240 VAC power requirement are also available.

Model	Dimensions: Height, Width, Depth	Weight	Power (120/240 V)
WR-2101	1'-9" H x 2'-0" W x 7" D (533 mm, 610 mm, 178 mm)	25 lb (11 kg)	
WR-2102	1'-9" H x 2'-0" W x 7" D	30 lb	100 Watts,
	(533 mm, 610 mm, 178 mm)	(14 kg)	1 Amp
WR-2103 1'-10" H x 2'-3" W x 2'-1" D (559 mm, 686 mm, 635 mm)		45 lb (20 kg)	
WR-2104	9" H x 2'-0" W x 7" D	10 lb	WR-2101, WR-2102, or
WR-2105	(229 mm, 610 mm, 178 mm)	(4.5 kg)	WR-2103 scoreboard
WR-2106 10" H x 2'-3" W x 2'-1" D		20 lb	required to provide
(254 mm, 679 mm, 635 mm)		(9 kg)	operation of digits

2 Mechanical & Electrical Installation

Mechanical Installation

Reference Drawings:

Mechanical Spec, WR-2102-13	DWG-220815
Mechanical Spec, WR-2101-13	
Mechanical Spec, WR-2103-13	
Mechanical Spec, WR-2104, 2105, 2106	

All Daktronics Matside Jr. wrestling scoreboards may be displayed on the floor on a table, or mounted on an optional tripod. Use only the tripod (part # A-1580) and adapter (part # HS-1306) supplied by Daktronics. **DWG-220815**, **DWG-220834**, **DWG-220856**, and **DWG-220904** in **Appendix A** show how to mount the display on a tripod. Locate the holes on the bottom of the scoreboard and secure the display to the tripod adaptor using the hardware provided.

The single-sided wrestling scoreboard (WR-2101) may also be wall mounted (the twoand three-sided models cannot). Refer to **DWG-220834** for mounting keyhole locations on the back of the display. Due to the variety of wall materials used in sports facilities, Daktronics cannot anticipate a user's needs or provide mounting hardware suitable for every installation. Mounting hardware may be purchased at a local hardware store. Choose a method of installation that will safely support the weight of the display.

Note: Do not use the carrying handle to permanently suspend the display.

Electrical Installation

Reference Drawings:

Electrical/Signal Spec, WR-2102-13	DWG-220821
Electrical/Signal Spec, WR-2101-13	
Electrical/Signal Spec, WR-2103-13	
Electrical/Signal Spec, WR-2104, 2105, 2106	

Electrical installation involves routing power and control signal wiring to the displays. Refer to **DWG-220821**, **DWG-220850**, and **DWG-220875** in **Appendix A** for detailed power and signal connection diagrams for each wrestling scoreboard model.

Warnings and Disclaimers

- Ensure that all electrical work meets or exceeds all local or national electrical codes.
- Provide the required power to the display as listed on the product labels, specifications, or site-specific riser drawings. The conductor size may vary based on the length of the power run.
- Consider implementing a separate circuit for the display using an isolation transformer or dedicated transformer.
- Daktronics assumes no liability for any issues caused by line voltage fluctuations or other improper power conditions.

Mechanical & Electrical Installation

Power

Each display features a 120 VAC power cord with a three-prong plug. Install a grounded receptacle near the equipment so that the power cord can easily reach it. The control console requires a 120/240 VAC receptacle and uses less than 1 Amp of power.

Displays operating on 240 VAC are also available, and they are shipped equipped with a universal power plug.

Models WR-2104, WR-2105, and WR-2106 receive power and signal from the WR-2101, WR-2102, or WR-2103 scoreboard, respectively. Refer to **DWG-220903** for illustration on how the units are connected.

Signal

- 1. Route the signal cable from the display to the control location.
- 2. Plug the signal cable into the J31 SIGNAL IN jack on the side of the display.
- Plug the other end of the signal cable into the J1 or J2 on the All Sport 1600 (J1, J2, or J3 jack on the back of the All Sport 5000).

Note: Refer to the electrical and signal specification drawings in **Appendix A** for additional information and typical system setup examples.

Special note to users of All Sport 4000 and Pro Sport 6000 Control Consoles:

Current standard models in the Daktronics Matside Jr. wrestling display lines are factory configured to operate only with the All Sport 1600 and 5000 series control consoles. If one of these standard scoreboards is sent as a replacement, the address plug must be removed from the scoreboard to properly receive signal from older controllers. Simply unplug the **P19** address plug from connector **J19** on the LED driver. Refer to **LED Drivers** (**p.7**). If any problems occur with this procedure, contact the Daktronics.

3 Troubleshooting

Disconnect power before doing any repair or maintenance work on the display. Permit only qualified service personnel to access internal display electronics. Disconnect power when not using the display.

Troubleshooting Table

This section lists potential problems with the system, indicates possible causes, and suggests corrective action. This list does not include every possible problem, but it does represent some of the more common situations that may occur.

Problem	Possible Cause	Solution/Items to Check	
		Check that the main circuit breaker for the display is on.	
Display does not light,	No power to the display	Check that the display is receiving 120-240 VAC power.	
and console does not work		Ensure the console is plugged into a 120 or 240 VAC power supply.	
	No power to the control console	Exchange the console with a working one, and enter the correct sport code to test. Replace console if necessary.	
		Check that the display is receiving 120-240 VAC power.	
	No wired signal from control console	Check that the red DS5 (or DS2) LED on the driver lights up when sending commands from the controller; see LED Drivers (p.7).	
	No signal to driver	Check that the display is receiving 120-240 VAC power.	
Display digits do not light, but console works		Check that the red DS5 (or DS2) LED on the driver lights up when sending commands from the controller. See LED Drivers (p.7).	
		Exchange the driver with a working one of the same part #. Replace if necessary. See LED Drivers (p.7) .	
	No power to driver	Check that the red DS8 (or green DS1) LED on the driver remains lit up when the display is powered on. See LED Drivers (p.7).	
Display digits light, but	Incorrect sport code	Ensure the correct sport code is being used for the display model. Refer to the appropriate console operation manual.	
not in the correct order	Incorrect driver address	Ensure all drivers are set to the correct address. See Setting the Driver Address (p.?).	
Digitalight console	No wired signal from control console	(see solution above)	
Digits light, console works, but nothing displays	Bad/damaged field wiring	Check that the red DS5 (or DS2) LED on the driver lights up when sending commands from the controller. See LED Drivers (p.7).	

Troubleshooting

Problem Possible Cause S		Solution/Items to Check
Display works, but some LEDs always stay on	Short in digit/indicator circuit	Exchange the digit/indicator with a working one of the same part # to verify the problem. Replace if necessary. See Replacing Digits (p.7) .
	Bad connection	Verify the connector on the back of the digit circuit board is secure.
Display works, but some LEDs do not light or they blink	Bad digit or driver	Exchange the digit or driver with a working one of the same part # to verify the problem. Replace if necessary. See Replacing Digits (p.7) or LED Drivers (p.7) .
	Bad digit or driver	(see solution above)
Display works, but some digits do not light	Incorrect sport code	(see solution on previous page)
	Incorrect driver address	(see solution on previous page)

Component Location & Access

To access the driver, digits, or other internal components, remove the screws securing the face panel(s) to the scoreboard. Some panels are hinged at the bottom and will swing downward.

Replacing Digits

LEDs are embedded in a printed circuit board (PCB) that is mounted to the back of the face panel. Do not attempt to remove individual LEDs. In the case of a malfunctioning LED or digit segment, replace the entire digit circuit board.

To replace a digit:

- 1. Open the face panel as described in Component Location & Access (p.7).
- 2. Disconnect the plug from the back of the digit by squeezing together the locking tabs and pulling the connector free.
- **3.** Use a 9/32" nut driver to remove the nuts securing the digits to the inside of the panel, and then lift the digit off the spacers and standoff studs.
- 4. Position a new digit over the studs. Make sure the small plastic spacers are still in place, and then tighten the nuts.
- 5. Reconnect the plug to the back of the digit. This is a keyed connector and will attach in one way only. Do not force the connection.
- 6. Close and secure the face panel, then power up and test the display to verify the issue has been resolved.

LED Drivers

The LED driver performs the task of switching digits on and off within the display. Refer to the electrical and signal specifications drawings in **Appendix A** to determine the location of the driver in a particular scoreboard model.

When troubleshooting driver problems, several LEDs shown in **Figure 4** provide diagnostic information. The number of LEDs and their function depends on the driver type.

Note: While it is necessary to have the display powered on to check the LED status indicators, always disconnect power before servicing.

Troubleshooting

LED	Function	Operation	Summary
DS1	Radio/ RS-232 RX	Blinking or off	DS1 will be blinking when the driver is receiving radio signal and off when there is no signal.
DS2	Status	Blinking	DS2 will be blinking at one second intervals to indicate the driver is running.
DS5	Signal RX	Blinking or off	DS5 will be blinking when the driver is receiving current loop signal and off when there is no signal.
DS8	Power	Steady on	DS8 will be on and steady to indicate driver has power.

16-Column "Gyrus" Drivers

For more detailed descriptions of driver LEDs and jacks, refer to **DWG-3071833**.

16-Column Drivers (prior to April 2015)

LED	Color	Function	Operation	Summary
DS1	Green	Power	Steady on	DS1 will be on and steady to indicate the driver has power.
DS2	Red	Signal RX	Steady on or blinking	DS2 will be on or blinking when the driver is receiving a signal and off when there is no signal.
DS3	Amber	Status	Blinking	DS3 will be blinking at one second intervals to indicate the driver is running.

For more detailed descriptions of 16-column driver LEDs and jacks, refer to DWG-126174.

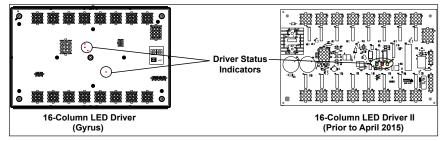


Figure 4: Driver Status Indicators

Replacing a Driver

If the driver status indicators do not appear to be working correctly, it may be necessary to replace the driver.

- 1. Open the face panel as described in Component Location & Access (p.7).
- 2. Disconnect all plugs from the driver by squeezing together the locking tabs and pulling the connectors free. It may be helpful to label the cables or take a picture to know which cable goes to which connector when attaching the new driver.
- 3. Remove the wing nuts securing the driver to the inside of the display.
- 4. Carefully lift the driver from the display and place it on a clean, flat surface.
- 5. Position a new driver over the screws and tighten the nuts.
- 6. Reconnect all plugs to their mating jacks on the driver. These are keyed connectors and will attach in one way only. Do not force the connections.
- 7. Ensure the new driver is set to the correct address. This will be the same address of the old driver being replaced. Refer to **Setting the Driver Address (p.9)**.
- 8. Close and secure the face panel, then power up and test the display to verify the issue has been resolved.

Troubleshooting

Setting the Driver Address

Since the same LED drivers can be used for many display models, each driver must be set to receive the correct signal input, or address, for the model in which it is being used. The way the address is set depends on the driver type:

• For 16-column "Gyrus" drivers, addresses are set through the S2 (L) and S3 (H) rotary switches on the driver (**Figure 5**) using a small flathead screwdriver.

Model	Driver # & Address		Switch Settings		
WR-2101 WR-2102 WR-2103	Al	104	H = 6, L = 8		
WR-2101 WR-2102 WR-2103		d in WR-2101, or WR-2103			

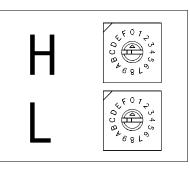
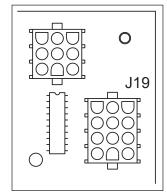


Figure 5: Driver Address Dials



• For older 16-column drivers, addresses are set with jumper wires in a 12-pin plug which mates with jack **J19** on the driver (**Figure 6**).

Figure 6: J19 Address Jack

Note: If an older 16-column driver needs replacement, it will be replaced by a new 16-column "Gyrus" driver. It may be possible to simply reuse the same address plug from the driver that was replaced. If not, refer to the table above to determine the correct rotary switch address settings for the new driver.

Segmentation & Digit Designation

Reference Drawings:

Segmentation, 7 Segment Bar Digit DWG-38532

In each digit, certain LEDs always go on and off together. These groupings of LEDs are referred to as segments. **DWG-38532** in **Appendix A** details which connector pin is wired to each digit segment and the wiring color code used throughout the display.

The electrical and signal specification drawings in **Appendix A** also specify the driver connectors controlling the digits. Numbers shown in hexagons in the upper half of each digit indicate which connector is wired to that digit.

Schematics

Reference Drawings:

Schematic; WR-2101 -2102 -2103..... DWG-214890

For advanced display troubleshooting and repair, it may be necessary to consult the schematic drawings. **DWG-214890** in **Appendix A** shows detailed power and signal wiring diagrams of internal display components.

Replacement Parts

The following table contains display components that may require replacement. Many of the other display components will have attached part number labels.

Description	Part Number
Horn, 120V w/ Cap.	0A-1152-0332
16 Column LED Driver	0A-1782-0100
Digit, 5" green 7 segment LED	0P-1150-0062
Digit, 5" amber 7 segment LED	0P-1150-0081
Digit, 5" red 7 segment LED	0P-1150-0200
Indicator, 5" amber LED	0P-1150-0247
Indicator, 5" red LED	0P-1150-0249
Indicator, 5" green LED	0P-1150-0250
Horn Interface Card	0P-1192-0399
Tripod Mount	A-1580 & HS-1306
Replacement T-bolt for Tripod Mount	HS-1315
Transformer, 115/230 V @ 6.25 A	T-1066
Cable, 20' phone plug	W-1236
Cable, 50' phone plug	W-1237
Cable, 30' phone plug	W-1238
Cable, 10' phone plug	W-1340

Refer to **Section 5: Daktronics Exchange and Repair & Return Programs (p.12)** for information on exchanging or returning parts.

4 Scoreboard Options

Horns

Matside Jr. scoreboards are equipped with a 120 VAC vibrating horn mounted behind the lower-front panel. The horn sounds automatically when the period clock counts down to zero, or when manually triggered by the operator using the control console.

Adjusting Horn Volume CAUTION: The horn is a 120 VAC device. Turn off the power before adjusting the horn.

The volume for the electronic, buzzer-type horn is set at its maximum level at the factory. If the horn is too loud, reduce its volume by adjusting the setscrew mounted in the front of the horn. A plastic tip on the screw touches the horn's diaphragm, reducing the volume. Turn the screw clockwise and test the volume by operating the horn from the scoreboard control console. Continue adjusting and testing until the desired volume level is obtained.

Note that with spectator noise, the horn will not seem as loud as when it is being tested in an empty area, so be sure to set the volume according to the acoustics of the facility.

Changeable Captions

Reference Drawings:

Caption Panel Placement, WR-2101, -2102, -2103 DWG-225545

Matside Jr. scoreboards are capable of scoring several other sports in addition to wrestling, including basketball, gymnastics, and volleyball. In order to score gymnastics and volleyball, the MATCH caption can be covered up with different scoring captions. These captions are shipped inside the scoreboard. Refer to **DWG-225545** in **Appendix A** for the proper procedure on changing the scoreboard captions.

Ad Panels

Reference Drawings:

Mechanical Spec, Non-Backlit Ad Panel Attachment......DWG-220915

Refer to **DWG-220915** in **Appendix A** for information on installing optional ad panels to the top of the scoreboard.

5 Daktronics Exchange and Repair & Return Programs

Exchange Program

The Daktronics Exchange Program is a service for quickly replacing key components in need of repair. If a component fails, Daktronics sends a replacement part to the customer who, in turn, returns the failed component to Daktronics. This decreases equipment downtime. Customers who follow the program guidelines explained below will receive this service.

Before contacting Daktronics, identify these important numbers:

Display Serial Number:

Display Model Number: _____

Job/Contract Number: _____

Date Manufactured/Installed: _____

Daktronics Customer ID Number: _____

To participate in the Exchange Program, follow these steps:

1. Call Daktronics Customer Service.

United States & Canada: 1-800-DAK-TRON (325-8766)

Outside the U.S. & Canada: +1-605-275-1040

2. When the new exchange part is received, mail the old part to Daktronics.

If the replacement part fixes the problem, send in the problem part being replaced.

- **a.** Package the old part in the same shipping materials in which the replacement part arrived.
- **b.** Fill out and attach the enclosed UPS shipping document.
- c. Ship the part to Daktronics.

3. The defective or unused parts must be returned to Daktronics within 5 weeks of initial order shipment.

If any part is not returned within five (5) weeks, a non-refundable invoice will be presented to the customer for the costs of replenishing the exchange parts inventory with a new part. Daktronics reserves the right to refuse parts that have been damaged due to acts of nature or causes other than normal wear and tear.

Repair & Return Program

For items not subject to exchange, Daktronics offers a Repair & Return Program. To send a part for repair, follow these steps:

1. Call Daktronics Customer Service.

United States & Canada: 1-800-DAK-TRON (325-8766)

Outside the U.S. & Canada: +1-605-275-1040

2. Receive a case number before shipping.

This expedites repair of the part.

3. Package and pad the item carefully to prevent damage during shipment.

Electronic components, such as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing peanuts when shipping.

4. Enclose:

- name
- address
- phone number
- the case number
- a clear description of symptoms

5. Ship to:

Daktronics Customer Service

[Case #]

201 Daktronics Drive, Dock E

Brookings, SD 57006

Daktronics Warranty & Limitation of Liability

The Daktronics Warranty & Limitation of Liability is located at the end of this manual. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation. This page intentionally left blank.

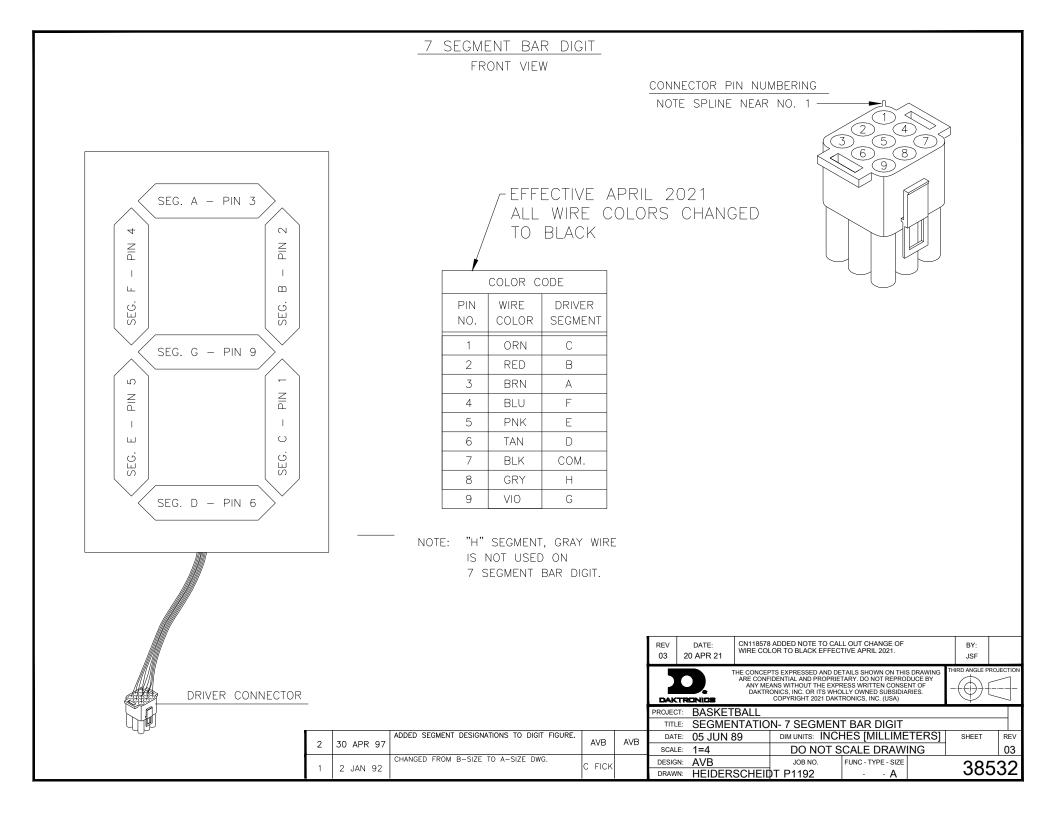
A Reference Drawings

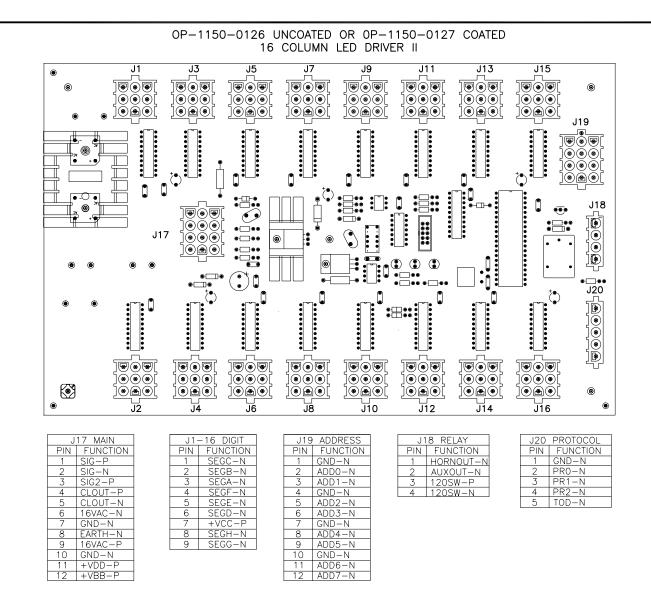
Refer to **Resources (p.2)** for information regarding how to read the drawing number. Any contract-specific drawings take precedence over the general drawings.

Reference Drawings:

Segmentation, 7 Segment Bar Digit	DWG-38532
16 Column LED Driver II Specifications	
Schematic; WR-2101 -2102 -2103	
Mechanical Spec, WR-2102-13	DWG-220815
Electrical & Signal Spec, WR-2102-13	
Mechanical Spec, WR-2101-13	
Electrical & Signal Spec, WR-2101-13	DWG-220850
Mechanical Spec, WR-2103-13	
Electrical & Signal Spec, WR-2103-13	DWG-220875
Electrical & Signal Spec, WR-2104, 2105, 2106	DWG-220903
Mechanical Spec, WR-2104, 2105, & 2106	DWG-220904
Mechanical Spec, Non-Backlit Ad Panel Attachment	DWG-220915
Caption Panel Placement, WR-2101, -2102, -2103	DWG-225545
Specifications; Gyrus LED Driver, 16 Col	DWG-3071833

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NOTE

-WITH NO ADDRESS PINS SELECTED THE DRIVER WILL DEFAULT TO A/S 4000 PROTOCOL

-GREEN LED INDICATES THE DRIVER HAS POWER

-RED LED WILL BE ON OR BLINKING WHEN THE DRIVER IS RECEIVING SIGNAL

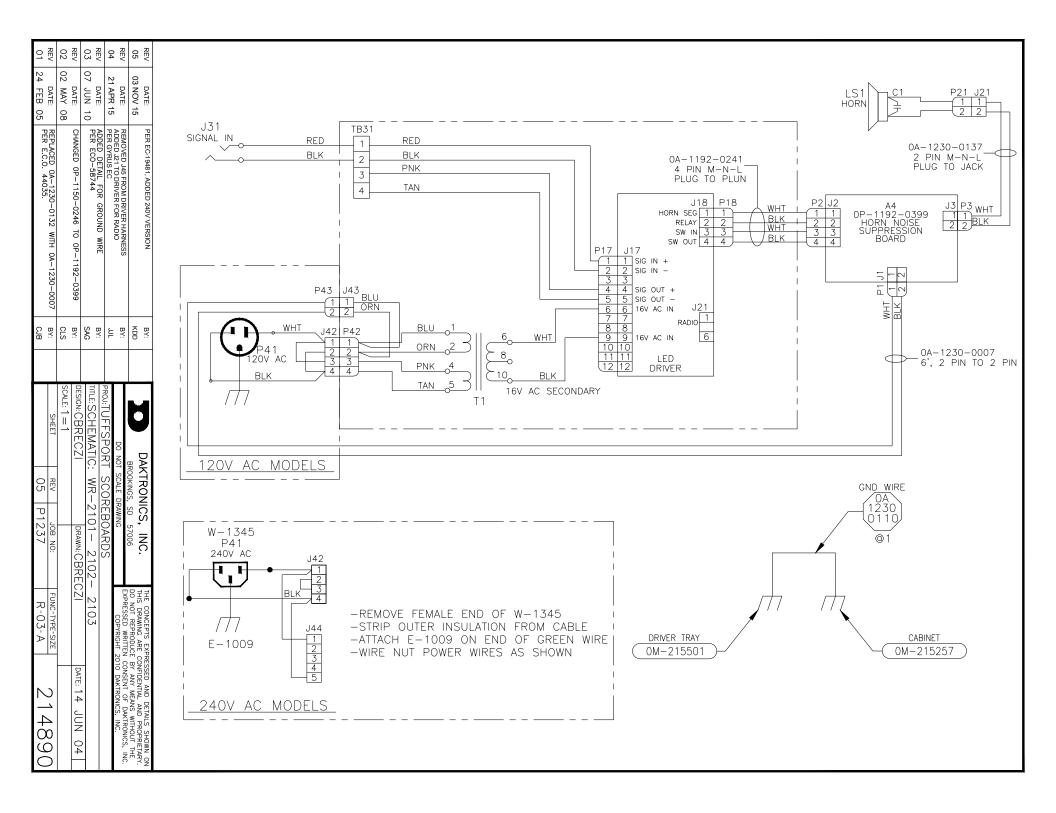
-AMBER LED INDICATES LED DRIVER STATUS, LED WILL BE BLINKING TO INDICATE THAT THE DRIVER IS RUNNING, IF THE LED IS OFF OR ON SOLID ALL OF THE TIME, THEN THE DRIVERS CPU IS NOT FUNCTIONING AND MAY NEED TO BE RESET OR REPLACED.

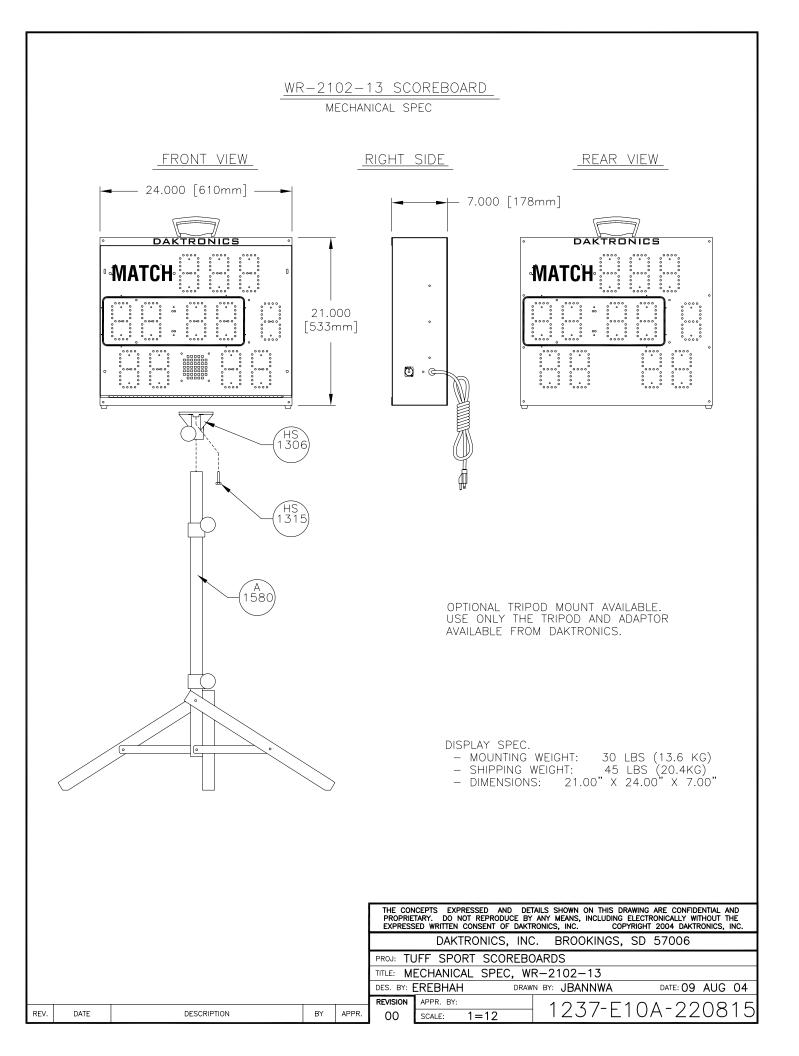
-REFER TO DRAWINGS A-115078 & A-115079 FOR J19 ADDRESS SETTINGS FOR THIS DRIVER.

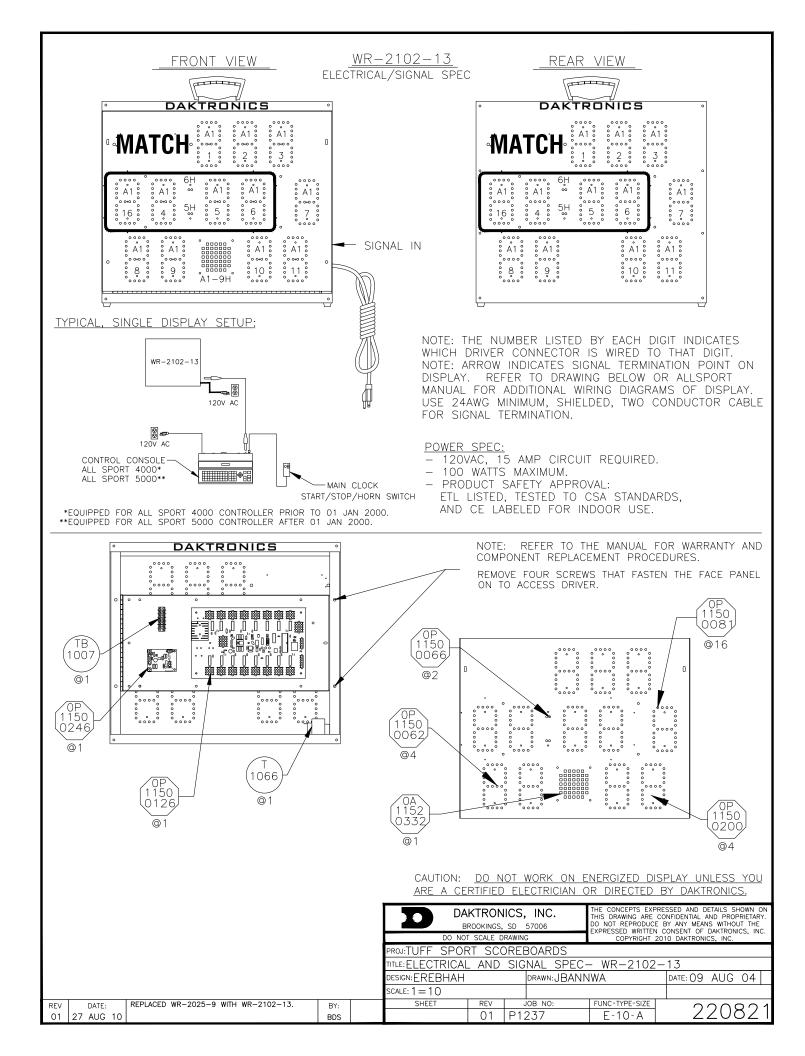
-REFER TO DRAWING A-115081 FOR J20 PROTOCOL SETTINGS FOR THIS DRIVER.

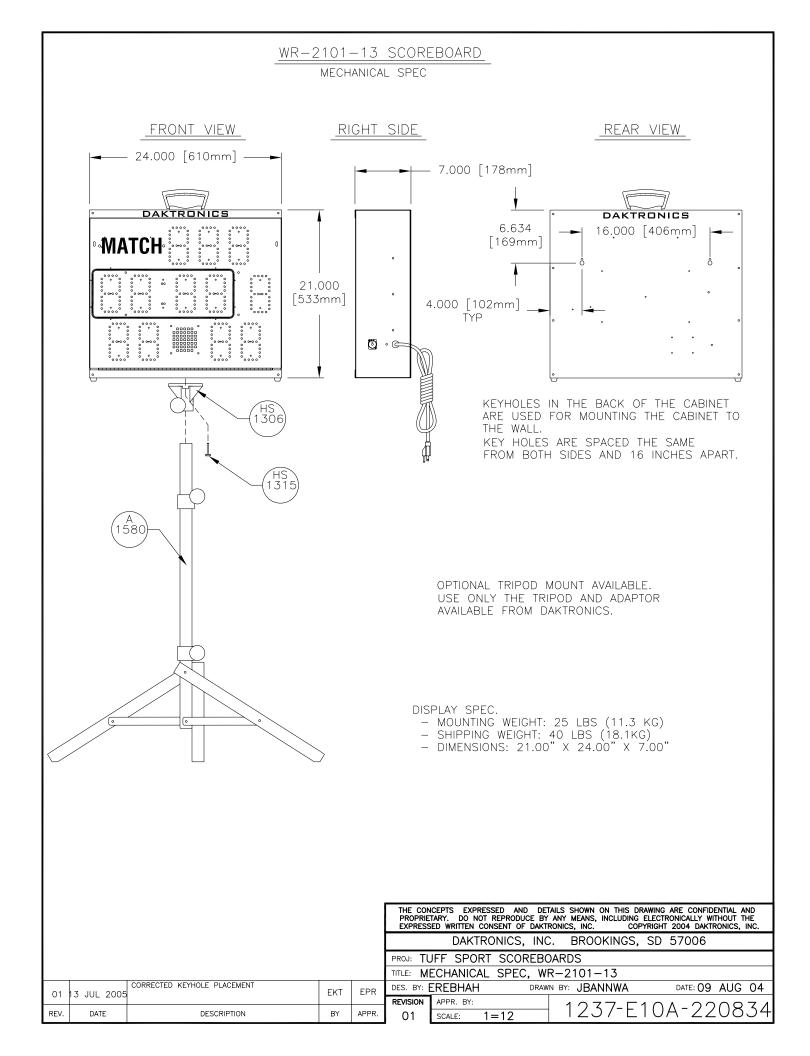
-REDRIVE CIRCUIT IS PROCESSOR REFRESHED (REFER TO DWG A-128429 FOR FURTHER INFORMATION ON THE CURRENT LOOP REDRIVE CIRCUIT SPECIFICATIONS)

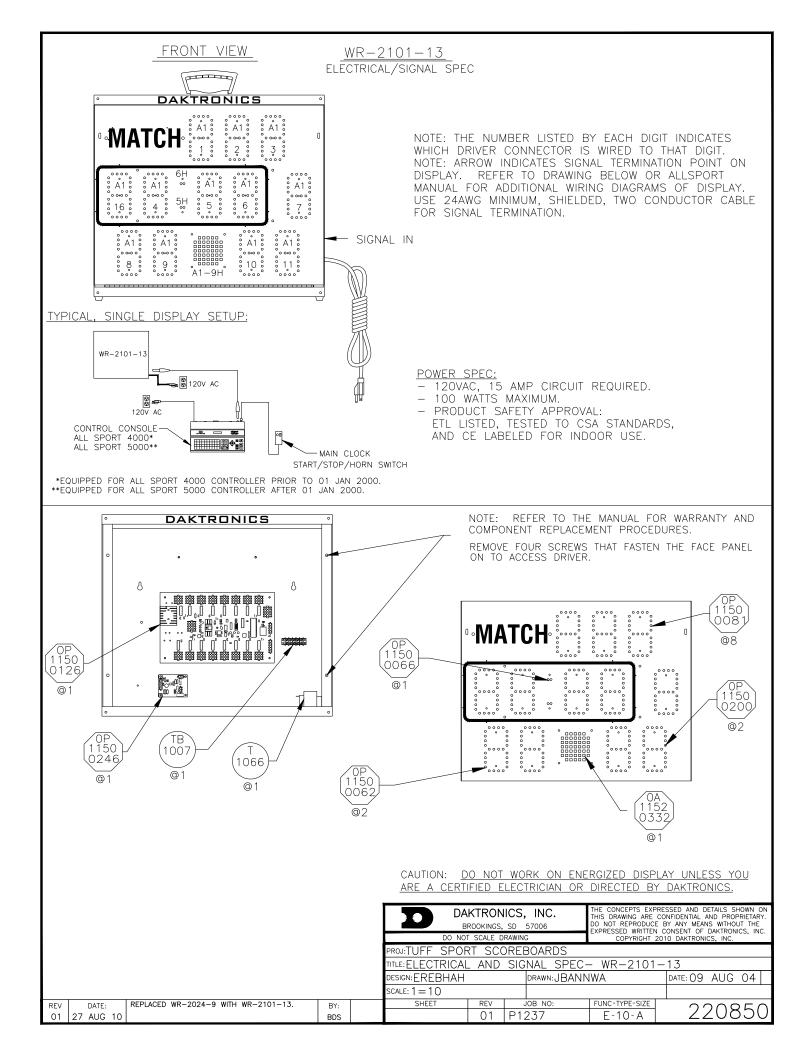
						DAKTRONICS,	INC.	BROOKINGS,	SD 57006
			PROJ:						
				TITLE: 16 COLUMN LED DRIVER II SPECIFICATIONS					
01	2 OCT 00	UPDATED NOTES SECTION	NSW		DES. BY:	EB	DRAWN B	EBRAVEK	DATE: 11 JAN 00
01	2 001 00				REVISION	APPR. BY:			
REV.	DATE	DESCRIPTION	BY	APPR.	01	SCALE: 1=2		1120-K(D7A-126174

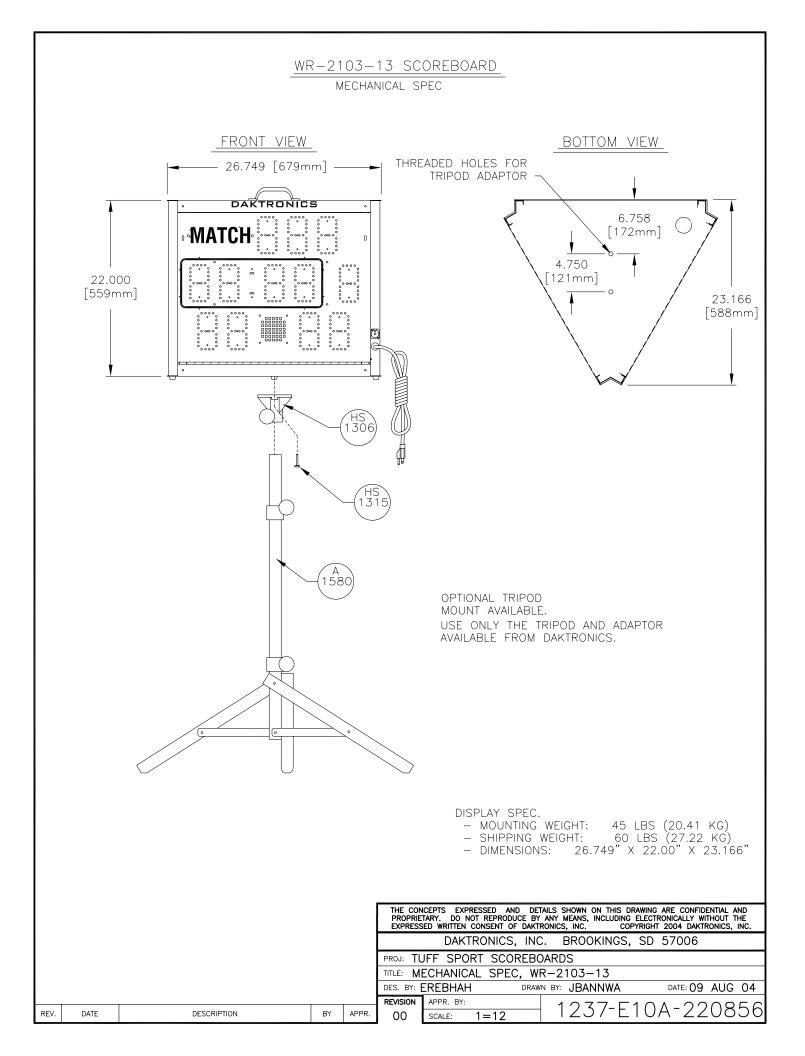


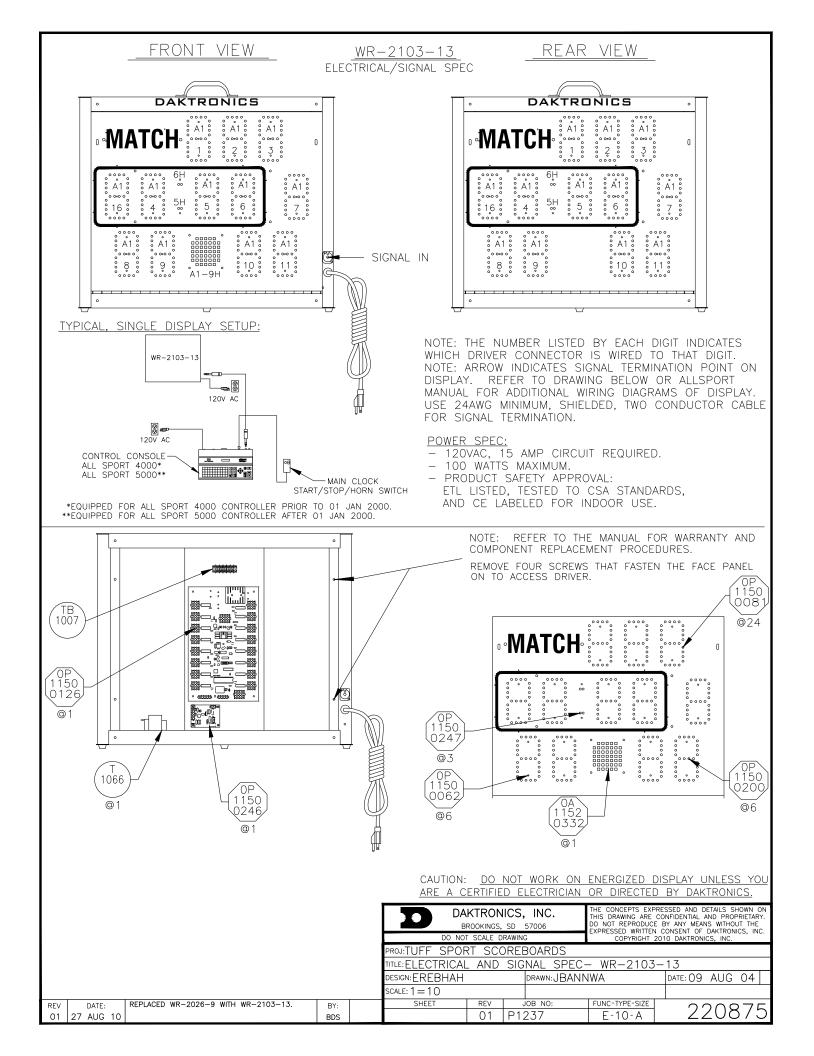


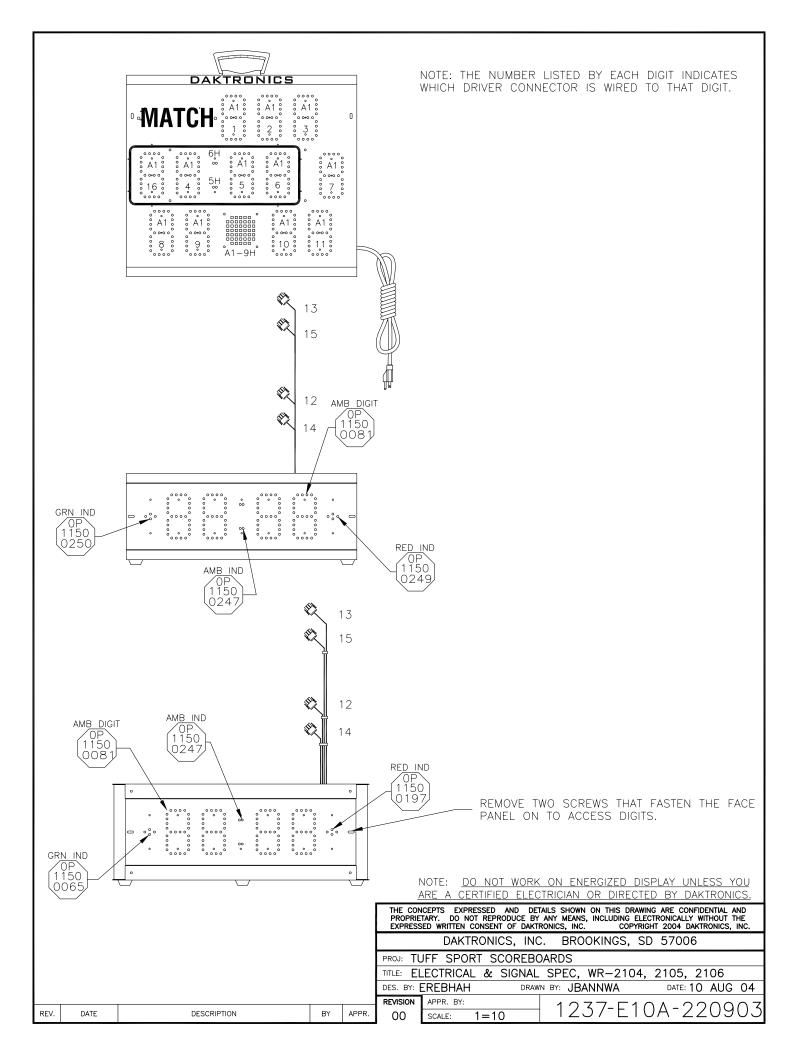


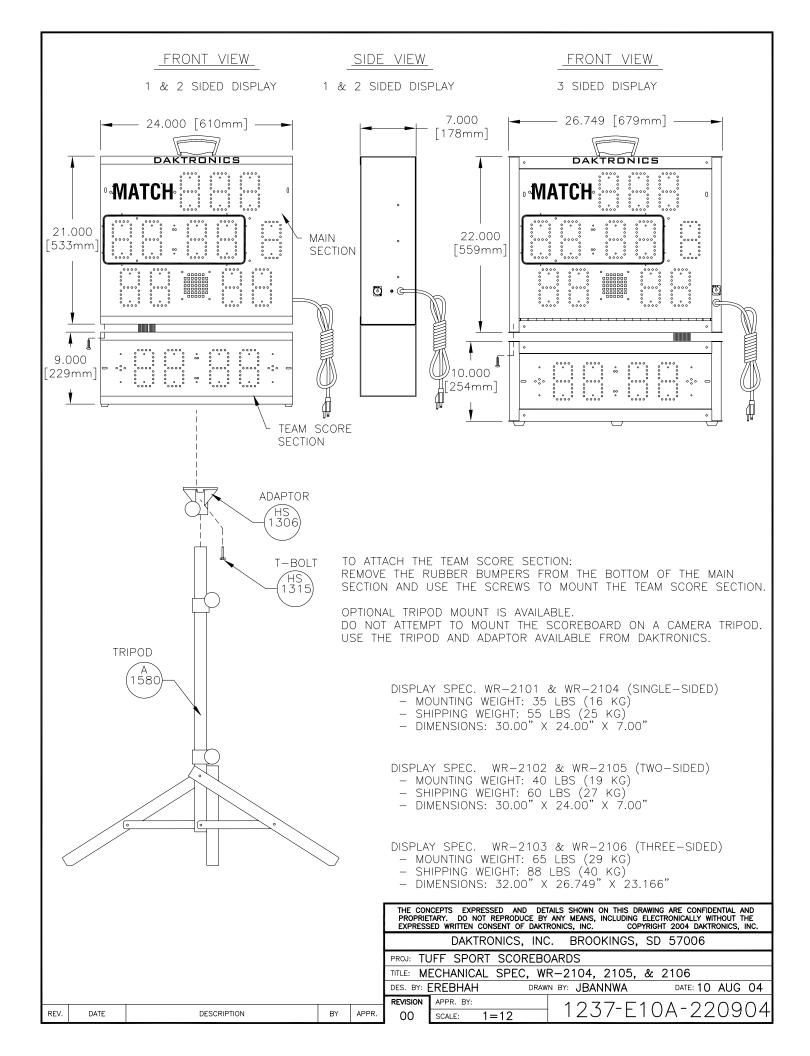


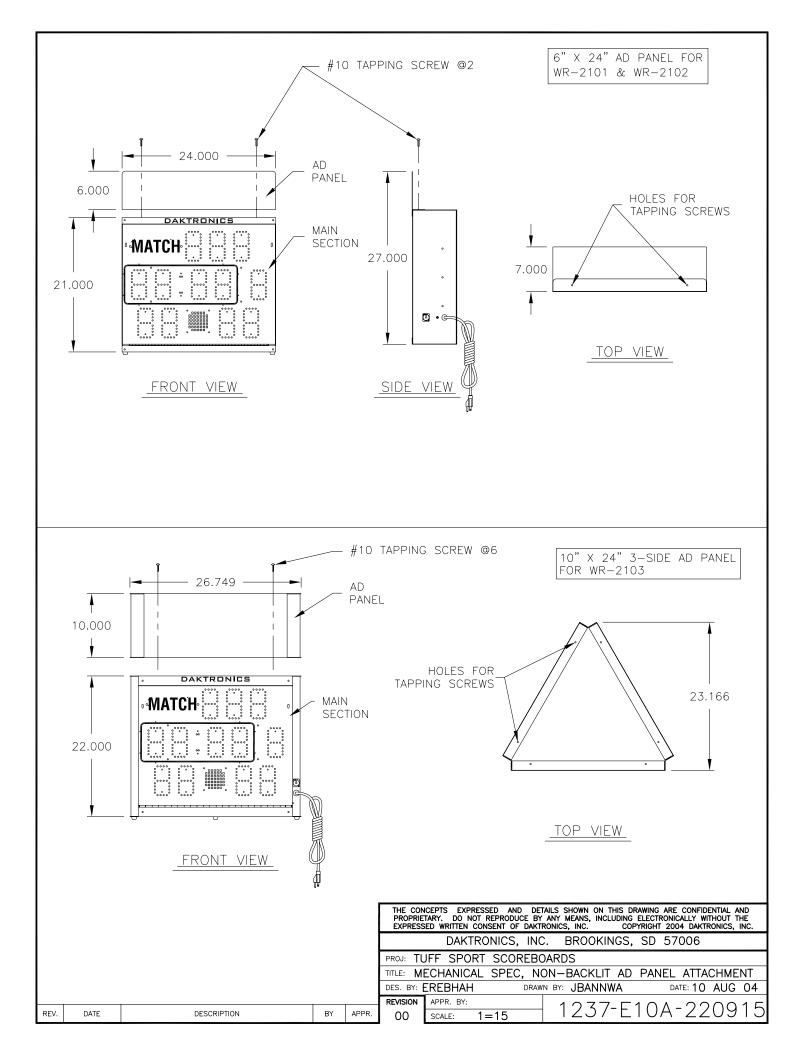


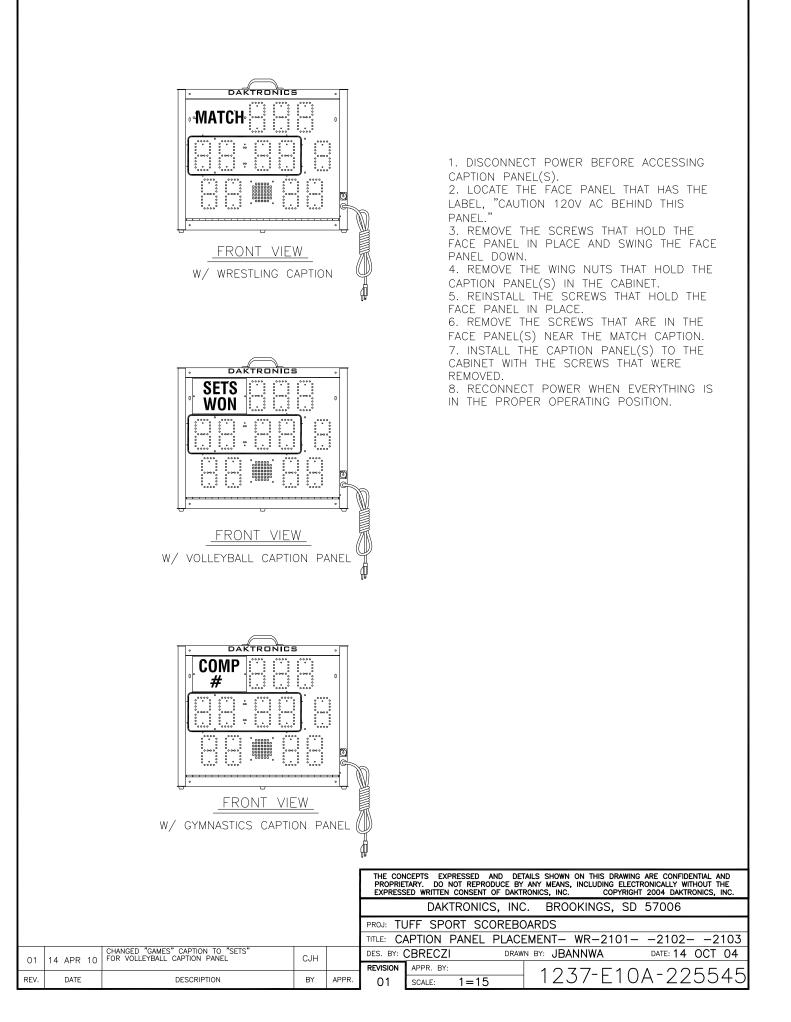








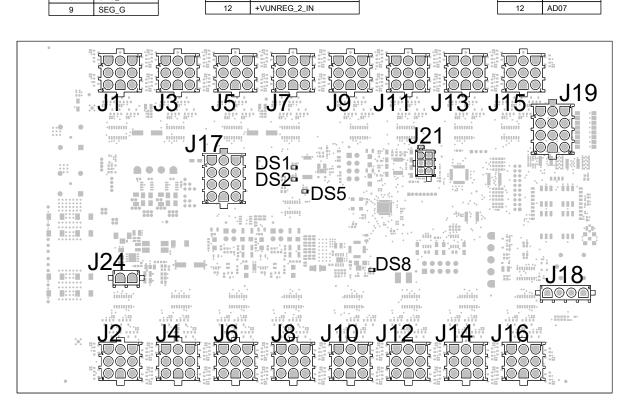




J1-16: D	J1-16: Digit Jacks				
Pin	Function				
1	SEG_C				
2	SEG_B				
3	SEG_A				
4	SEG_F				
5	SEG_E				
6	SEG_D				
7	+VCC				
8	SEG_H				
9	SEG_G				

147 D / 0'					
J17: Power / Signal					
Pin	Function				
1	CL_IN_1-P				
2	CL_IN_1-N				
3	LEGACY_232_IN-P				
4	CL_OUT-P				
5	CL_OUT-N				
6	LEGACY_AC_IN1				
7	GND				
8	CHGND				
9	LEGACY_AC_IN2				
10	GND				
11	+VUNREG_1_IN				
12 +VUNREG_2_IN					

J19: Address				
Pin	Function			
1	GND			
2	AD00			
3	AD01			
4	GND			
5	AD02			
6	AD03			
7	GND			
8	AD04			
9	AD05			
10	GND			
11	AD06			
12	AD07			



J24: Power Input	J21: (comm	J18	3: Horn	
Pin Function	Pin	Function		Pin Fund	tion
1 +12V	1	+12V		1 HORI	N_OUT-N
2 GND	2	RS232_TX-P			_OUT-N
	3	BOOT0			Y_COM
Notes:	4	CL_RADIO_F	RX-P	4 RELA	Y_NO
- Protocols are auto-detected	5	RS232_RX-F)		
	6	GND			
Indicators: - DS8 = Power - DS1 = RS-232 Status (Radio) BLINK = Comm Detected OFF = No Comm - DS2 = Heartbeat (Run) 1 sec. Blink = OK - DS5 = Current Loop Receive					
ON = OK OFF = Disconnected	BF	DAKTRONICS, OOKINGS, SD	57006	DRAWING ARI REPRODUCE WRITTEN COM	TS EXPRESSED AND DETAILS SHOWN ON THIS E CONFIDENTIAL AND PROPIETARY. DO NOT BY ANY MEANS WITHOUT THE EXPRESSED USENT OF DAKTRONICS INC. 15 Daktronics Inc.
	PROJECT .		-		
Reference Drawings	TITLE S	PECIFICATION	IS; GYRUS LEI	D DRIVER, 16	COL
- A-128429 for current loop re-drive specifications	DESIGN .				SHEET 1 OF 1
- B-1198765 for Switch Address Settings		ULSCHM			SCALE 1 = 2
	DATE 2 REV 0	3 MAY 15	JOB NUMBER P1192	FUNC-TYPE-SI R - 04 - A	<u>∞</u> 3071833

B Daktronics Warranty & Limitation of Liability

This section includes the Daktronics Warranty & Limitation of Liability statement (SL-02374).

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DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

This Warranty and Limitation of Liability (the "Warranty") sets forth the warranty provided by Daktronics with respect to the Equipment. By accepting delivery of the Equipment, Purchaser and End User agree to be bound by and accept these terms and conditions. Unless otherwise defined herein, all terms within the Warranty shall have the same meaning and definition as provided elsewhere in the Agreement.

DAKTRONICS WILL ONLY BE OBLIGATED TO HONOR THE WARRANTY SET FORTH IN THESE TERMS AND CONDITIONS UPON RECEIPT OF FULL PAYMENT FOR THE EQUIPMENT

1. Warranty Coverage.

A. Daktronics warrants to the original end user (the "End User", which may also be the Purchaser) that the Equipment will be free from Defects (as defined below) in materials and workmanship for a period of one (1) year (the "Warranty Period"). The Warranty Period shall commence on the earlier of: (i) four weeks from the date that the Equipment leaves Daktronics' facility; or (ii) Substantial Completion as defined herein. The Warranty Period shall expire on the first anniversary of the commencement date.

"Substantial Completion" means the operational availability of the Equipment to the End User in accordance with the Equipment's specifications, without regard to punch-list items, or other non-substantial items which do not affect the operation of the Equipment

- B. Daktronics' obligation under this Warranty is limited to, at Daktronics' option, replacing or repairing, any Equipment or part thereof that is found by Daktronics not to conform to the Equipment's specifications. Unless otherwise directed by Daktronics, any defective part or component shall be returned to Daktronics for repair or replacement. This Warranty does not include on-site labor charges to remove or install these components. Daktronics may, at its option, provide on-site warranty service. Daktronics shall have a reasonable period of time to make such replacements or repairs and all labor associated therewith shall be performed during regular working hours. Regular working hours are Monday through Friday between 8:00 a.m. and 5:00 p.m. at the location where labor is performed, excluding any holidays observed by Daktronics.
- C. Daktronics shall pay ground transportation charges for the return of any defective component of the Equipment. All such items shall be shipped by End User DDP Daktronics designated facility per Incoterms® 2020. If returned Equipment is repaired or replaced under the terms of this Warranty, Daktronics will prepay ground transportation charges back to End User and shall ship such items DDP End User's designated facility per Incoterms® 2020; otherwise, End User shall pay transportation charges to return the Equipment back to the End User and such Equipment shall be shipped Ex Works Daktronics designated facility per Incoterms® 2020. All returns must be pre-approved by Daktronics before shipment. Daktronics shall not be obligated to pay freight for any unapproved return. End User shall pay any upgraded or expedited transportation charges
- D. Any replacement parts or Equipment will be new or serviceably used, comparable in function and performance to the original part or Equipment and warranted for the remainder of the Warranty Period. Purchasing additional parts or Equipment from the Seller does not extend the Warranty Period.
- E. Defects shall be defined as follows. With regard to the Equipment (excepting LEDs), a "Defect" shall refer to a material variance from the design specifications that prohibit the Equipment from operating for its intended use. With respect to LEDs, "Defects" are defined as LED pixels that cease to emit light. Unless otherwise expressly provided, this Warranty does not impose any duty or liability upon Daktronics for partial LED pixel degradation. Notwithstanding the foregoing, in no event does this Warranty include LED pixel degradation caused by UV light. This Warranty does not provide for the replacement or installation of communication methods including but not limited to, wire, fiber optic cable, conduit, trenching, or for the purpose of overcoming local site interference radio equipment substitutions.

EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS WARRANTY, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DAKTRONICS DISCLAIMS ANY AND ALL OTHER PROMISES, REPRESENTATIONS AND WARRANTIES APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ACCURACY OR QUALITY OF DATA. OTHER ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY DAKTRONICS, ITS AGENTS OR EMPLOYEES, SHALL NOT CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS LIMITED WARRANTY.

THIS LIMITED WARRANTY IS NOT TRANSFERABLE.

2. Exclusion from Warranty Coverage

This Warranty does not impose any duty or liability upon Daktronics for any:

- A. damage occurring at any time, during shipment of Equipment unless otherwise provided for in the Agreement. When returning Equipment to Daktronics for repair or replacement, End User assumes all risk of loss or damage, agrees to use any shipping containers that might be provided by Daktronics, and to ship the Equipment in the manner prescribed by Daktronics;
- **B.** damage caused by: (i)the improper handling, installation, adjustment, use, repair, or service of the Equipment, or (ii) any physical damage which includes, but is not limited to, missing, broken, or cracked components resulting from non-electrical causes;



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DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

altered, scratched, or fractured electronic traces; missing or gauged solder pads; cuts or clipped wires; crushed, cracked, punctured, or bent circuit boards; or tampering with any electronic connections, provided that such damage is not caused by personnel of Daktronics or its authorized repair agents;

- C. damage caused by the failure to provide a continuously suitable environment, including, but not limited to: (i) neglect or misuse; (ii) improper power including, without limitation, a failure or sudden surge of electrical power; (iii) improper air conditioning, humidity control, or other environmental conditions outside of the Equipment's technical specifications such as extreme temperatures, corrosives and metallic pollutants; or (iv) any other cause other than ordinary use;
- **D.** damage caused by fire, flood, earthquake, water, wind, lightning or other natural disaster, strike, inability to obtain materials or utilities, war, terrorism, civil disturbance, or any other cause beyond Daktronics' reasonable control;
- E. failure to adjust, repair or replace any item of Equipment if it would be impractical for Daktronics personnel to do so because of connection of the Equipment by mechanical or electrical means to another device not supplied by Daktronics, or the existence of general environmental conditions at the site that pose a danger to Daktronics personnel;
- F. statements made about the product by any salesperson, dealer, distributor or agent, unless such statements are in a written document signed by an officer of Daktronics. Such statements as are not included in a signed writing do not constitute warranties, shall not be relied upon by End User and are not part of the contract of sale;
- **G.** damage arising from the use of Daktronics products in any application other than the commercial and industrial applications for which they are intended, unless, upon request, such use is specifically approved in writing by Daktronics;
- H. replenishment of spare parts. In the event the Equipment was purchased with a spare parts package, the parties acknowledge and agree that the spare parts package is designed to exhaust over the life of the Equipment, and as such, the replenishment of the spare parts package is not included in the scope of this Warranty;
- I. security or functionality of the End User's network or systems, or anti-virus software updates;
- J. performance of preventive maintenance;
- K. third-party systems and other ancillary equipment, including without limitation front-end video control systems, audio systems, video processors and players, HVAC equipment, batteries and LCD screens;
- L. incorporation of accessories, attachments, software or other devices not furnished by Daktronics; or
- M. paint or refinishing the Equipment or furnishing material for this purpose.

3. Limitation of Liability

- A. Daktronics shall be under no obligation to furnish continued service under this Warranty if alterations are made to the Equipment without the prior written approval of Daktronics.
- B. It is specifically agreed that the price of the Equipment is based upon the following limitation of liability. In no event shall Daktronics (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any claims asserting or based on (a) loss of use of the facility or equipment; lost business, revenues, or profits; loss of goodwill; failure or increased cost of operations; loss, damage or corruption of data; loss resulting from system or service failure, malfunction, incompatibility, or breaches in system security; or (b) any special, consequential, incidental or exemplary damages arising out of or in any way connected with the Equipment or otherwise, including but not limited to damages for lost profits, cost of substitute or replacement equipment, down time, injury to property or any damages or sums paid to third parties, even if Daktronics has been advised of the possibility of such damages. The foregoing limitation of liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise
- C. In no event shall Daktronics be liable for loss, damage, or injury of any kind or nature arising out of or in connection with this Warranty in excess of the Purchase Price of the Equipment. The End User's remedy in any dispute under this Warranty shall be ultimately limited to the Purchase Price of the Equipment to the extent the Purchase Price has been paid.

4. Assignment of Rights

A. The Warranty contained herein extends only to the End User (which may be the Purchaser) of the Equipment and no attempt to extend the Warranty to any subsequent user-transferee of the Equipment shall be valid or enforceable without the express written consent of Daktronics.

5. Governing Law; Election of Remedies

- A. The rights and obligations of the parties under this Warranty shall not be governed by the provisions of the United Nations Convention on Contracts for the International Sales of Goods of 1980. The parties consent to the application of the laws of the State of South Dakota to govern, interpret, and enforce each of the parties' rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Warranty, without regard to conflict of law principles.
- B. Any dispute, controversy or claim arising from or related to this Warranty, the parties shall first attempt to settle through negotiations. In the event that no resolution is reached, then such dispute, controversy, or claim shall be resolved by final and binding arbitration under the Rules of Arbitration of the International Chamber of Commerce. The language of the arbitration



DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

shall be English. The place of the arbitration shall be Sioux Falls, SD. A single arbitrator selected by the parties shall preside over the proceeding. If a single arbitrator cannot be agreed upon by the parties, each party shall select an arbitrator, and those arbitrators shall confer and agree on the appointed arbitrator to adjudicate the arbitration. The arbitrator shall have the power to grant any provisional or final remedy or relief that it deems appropriate, including conservatory measures and an award of attorneys' fees. The arbitrator shall make its decisions in accordance with applicable law. By agreeing to arbitration, the Parties do not intend to deprive any court of its jurisdiction to issue a pre-arbitral injunction, pre-arbitral attachment, or other order in aid of arbitration proceedings and the enforcement of any award. Without prejudice to such provisional remedies as may be available under the jurisdiction of a court, the arbitrator shall have full authority to grant provisional remedies and to direct the Parties to request that any court modify or vacate any temporary or preliminary relief issued by such court, and to award damages for the failure of any Party to respect the arbitrator's orders to that effect.

6. Availability of Extended Service Agreement

A. For End User's protection, in addition to that afforded by the warranties set forth herein, End User may purchase extended warranty services to cover the Equipment. The Extended Service Agreement, available from Daktronics, provides for electronic parts repair and/or on-site labor for an extended period from the date of expiration of this warranty. Alternatively, an Extended Service Agreement may be purchased in conjunction with this Warranty for extended additional services. For further information, contact Daktronics Customer Service at 1-800-DAKTRONics (1-800-325-8766).

Additional Terms applicable to sales outside of the United States

The following additional terms apply only where the installation site of the Equipment is located outside of the United States of America.

 In the event that the installation site of the Equipment is in a country other than the U.S.A., then, notwithstanding Section 5 of the Warranty, where the selling entity is the entity listed in Column 1, then the governing law of this Warranty is the law of the jurisdiction listed in the corresponding row in Column 2 without regard to its conflict of law principles. Furthermore, if the selling entity is an entity listed in Column 1, then the place of arbitration is listed in the corresponding row in Column 3.

Column 1 (Selling Entity)	Column 2 (Governing Law)	Column 3 (Location of Arbitration)
Daktronics, Inc.	The state of Illinois	Chicago, IL, U.S.A.
Daktronics Canada, Inc.	The Province of Ontario, Canada	Toronto, Ontario, Canada
Daktronics UK Ltd.	England and Wales	Bristol, UK
Daktronics GmbH	The Federal Republic of Germany	Wiesbaden, Germany
Daktronics Hong Kong Limited	Hong Kong, Special Administrative Region of the P.R.C.	Hong Kong SAR
Daktronics Shanghai Co., Ltd.	The Peoples Republic of China	Shanghai, P.R.C.
Daktronics France, SARL	France	Paris, France
Daktronics Japan, Inc.	Japan	Tokyo, Japan
Daktronics International Limited	Macau, Special Administrative Region of the P.R.C.	Macau SAR
Daktronics Australia Pad Ltd	Australia	Sydney, Australia
Daktronics Singapore Pte. Ltd	Singapore	Singapore
Daktronics Brazil LTDA	Brazil	São Paulo, Brazil
Daktronics Spain S.L.U.	Spain	Madrid, Spain
Daktronics Belgium N. V	Belgium	Kruibeke, Belgium
Daktronics Ireland Co. Ltd.	Ireland	Dublin, Ireland



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